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ABSTRACT

Standardized vocational education course titles and core contents for two courses in Mississippi are provided: general drafting I and II. The first course contains the following units: (1) orientation; (2) introduction to mechanical drawing; (3) lettering; (4) geometric construction; (5) basic computer-assisted design (CAD); (6) orthographic projection; (7) dimensioning; (8) sectional views; and (9) pictorials. The second course contains the following units: (1) introduction to architectural drafting; (2) structural systems and building materials; (3) basic CAD; and (4) architectural working drawings. Each unit consists of these components: objectives, with core/essential objectives indicated; suggested instructional practices; list of suggested resources; list of evaluation and suggested minimum performance standards, with core/essential objectives indicated; and performance record, with core/essential objectives indicated. A checklist for each course combining all unit performance standards into a single list is included. (NLA)

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STANDARDIZED CURRICULUM

FOR

GENERAL DRAFTING

MISSISSIPPI DEPARTMENT OF EDUCATION

OFFICE OF VOCATIONAL, TECHNICAL

AND ADULT EDUCATION

June 1989

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1989

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FOREWORD

This volume is intended to be used in the State of Mississippi as a mechanism for standardizing vocational education course titles and core contents. The need for standardization of curricula was triggered by provisions in the Educational Reform Act of 1982 which mandated:

-- elimination of nearly all currently existing curriculum requirements and development of new curriculum content that is "properly sequenced" and "coordinated";

-- steps to ensure that students master one level of course work before being advanced to the next level and that progression is properly sequenced;

-- a criterion-referenced, state-wide testing program that is built upon an identified set of "basic skills" keyed to student performance in grades 3, 5, 8, and 11;

-- revised graduation requirements that take into account student performance on the basic skills and also on a test of "functional literacy skills"; and

-- a system of accrediting schools that takes into account the performance of districts, schools, and students.

In addition to the mandates of the Educational Reform Act, the Strategic Plan for Vocational and Technical Education in Mississippi also calls for improving the quality of vocational and technical education through the standardization of curricula and the articulation of secondary and postsecondary programs.

Both of these mandates were further reinforced by legislation passed in 1986 which called for the establishment of state-wide "guidelines and procedures for managing an instructional program in the public schools." This legislation calls for instructional management plans containing the following components:

1. a written list of learning objectives for every course for which academic credit is given on students' transcripts (state specified core objectives must be included);

2. suggested instructional practices and resources for the learning objectives;

3. standards for student performance for each learning objective; and

4. systematic procedures for evaluating student performance on the learning objectives.

Specific local district actions regarding the state-wide instructional management plan are also required, namely:

1. The objectives contained in this document are common to all programs in the state. Core objectives are designated with an asterisk. The local district is encouraged to add additional objectives to this listing to meet local needs of students and employers.

2. The local school board must officially adopt the learning objectives as the district's curricula.

3. Pass/fail policies must be based on mastery of learning objectives.

4. Student performance on the learning objectives must be systematically evaluated at least once during the school year.

5. During the school year, records of individual student performance must indicate whether or not the objectives have been mastered. The record must indicate mastery status for each of the objectives tested in the Basic Skills Assessment Program (including functional literacy skills) and must be permanently maintained on all students who do not master the basic and functional literacy skills prior to being tested on them.

6. Each year, information about student performance on learning objectives must be reviewed. Those objectives which students are not mastering must be identified, and a plan must be developed for improving student performance on those objectives.

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GENERAL DRAFTING I

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GENERAL DRAFTING I

Unit No.	Title
1	Orientation
2	Introduction to Mechanical Drawing
3	Lettering
4	Geometric Construction
5	Basic CAD
6	Orthographic Projection
7	Dimensioning
8	Sectional Views
9	Pictorials

COURSE: General Drafting I

Unit 1: Orientation

Objectives: Upon completion of this unit, the student will:

1. Match terms related to drafting with their correct definitions.
2. Select areas of specialization in the drafting profession.
*3. List rules for personal safety in the drafting classroom.
4. State reasons for joining the VICA organization.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Basic Drafting: Book One. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Sources: Official Guide for Vocational Industrial Clubs of America (VICA). 1025-15th Street N.W., Washington, D.C. 20005.

Evaluation and Suggested Minimum Performance Standards:

Objective 1: The student will match five terms with their correct definitions.
Objective 2: The student will select six areas of specialization related to drafting.
*Objective 3: The student will list ten rules for personal safety in the drafting classroom.
Objective 4: The student will state seven reasons for joining the VICA organization.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____ 1. Matched terms with their correct definitions.
____ 2. Selected areas of specialization related to drafting.
____ *3. Listed rules for personal safety in the drafting classroom.
____ 4. Stated reasons for joining the VICA organization.

*Indicates core/essential objectives

COURSE: General Drafting I

Unit 2: Introduction to Mechanical Drafting

Objectives: Upon completion of this unit, the student will:

1. Match tools with their correct usage.
*2. Identify the basic types of lines.
*3. Interpret 1/16, 1/8, 1/4, and 1/2 inch graduations on a full size scale.
4. Match media terms with their correct definitions.
5. Operate the blueprint machine.
6. Interpret 2.5 cm, 9 cm, and 3 mm graduations on 1:1 scale ratio using a metric scale.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Basic Drafting: Book One. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Sources: Mechanical Drawing, 9th edition. Thomas E. French, Carl L. Stenson, Jay D. Helsel, and Byron Urbanick. McGraw-Hill Book Company. New York. 1980.

Evaluation and Suggested Minimum Performance Standards:

Objective 1: The student will match eighteen tools with their correct usage.
*Objective 2: The student will identify twelve basic types of lines.
*Objective 3: The student will interpret 1/16, 1/8, 1/4, and 1/2 inch graduations on a full size scale.
Objective 4: The student will match ten media terms with their correct definitions.
Objective 5: The student will demonstrate the ability to properly operate the blueprint machine by making blueline or blackline prints.
Objective 6: Interpret 2.5 cm, 9 cm, and 3 mm graduations on 1:1 scale ratio using a metric scale.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____ 1. Matched tools with their correct usage.
____ *2. Identified the basic types of lines.
____ *3. Interpreted 1/16, 1/8, 1/4, and 1/2 inch graduations on a full size scale.
____ 4. Matched media terms with their correct definitions.
____ 5. Operated the blueprint machine.
____ 6. Interpreted 2.5 cm, 9 cm, and 3 mm graduations on 1:1 scale ratio using a metric scale.

*Indicates core/essential objectives

COURSE: General Drafting I

Unit 3: Lettering

Objectives: Upon completion of this unit, the student will:

1. List guidelines for lettering.
2. Identify lettering tools.
*3. State reasons for neat lettering.
*4. State rules for neat lettering.
*5. Construct lower-case and upper-case Gothic letters and numerals demonstrating fundamental strokes of freehand drawing.
6. Construct single stroke letters.
7. Construct vertical upper-case and lower-case letters.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Basic Drafting: Book One. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Sources: Mechanical Drawing, 9th edition. Thomas E. French, Carl L. Stenson, Jay D. Helsel, and Byron Urbanick. McGraw-Hill Book Company. New York. 1980.

Evaluation and Suggested Minimum Performance Standards:

Objective 1: The student will list two guidelines for lettering.
Objective 2: The student will identify the Braddock Rowe triangle and the Ames lettering guide.
*Objective 3: The student will state three reasons for neat lettering.
*Objective 4: The student will state two rules for neat lettering.
*Objective 5: The student will construct lower-case and upper-case Gothic letters and numerals which demonstrate the six fundamental strokes of freehand drawing.
Objective 6: The student will construct single stroke letters.
Objective 7: The student will construct vertical upper-case and lower-case letters.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____ 1. Listed guidelines for lettering.
____ 2. Identified lettering tools.
____ *3. Stated reasons for neat lettering.
____ *4. Stated rules for neat lettering.
____ *5. Constructed lower-case and upper-case Gothic letters and numerals demonstrating fundamental strokes of freehand drawing.
____ 6. Constructed single stroke letters.
____ 7. Constructed vertical upper-case and lower-case letters.

*Indicates core/essential objectives

COURSE: General Drafting I

Unit 4: Geometric Construction

Objectives: Upon completion of this unit, the student will:

*1. Match terms with their correct definitions.
2. Identify basic geometric shapes.
*3. Bisect a line or an arc.
*4. Bisect an angle.
*5. Construct a perpendicular line to a line from a point.
*6. Divide a line into equal parts.
*7. Draw an arc tangent to a straight line and an arc.
*8. Draw an arc tangent to two arcs.
*9. Construct an octagon.
*10. Construct a hexagon.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Basic Drafting: Book Two. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Sources: Basic Technical Drawing. Henry Cecil Spencer and John Thomas Dygdon. Macmillan Publishing Co., Inc. New York. 1980.

Evaluation and Suggested Minimum Performance Standards:

*Objective 1: The student will match fifteen terms with their correct definitions.
Objective 2: The student will identify twelve basic geometric shapes.
*Objective 3: The student will bisect a line and an arc.
*Objective 4: The student will bisect an angle.
*Objective 5: The student will construct a perpendicular line to a line from a point.
*Objective 6: The student will divide a line into equal parts.
*Objective 7: The student will draw an arc tangent to a straight line and an arc.
*Objective 8: The student will draw an arc tangent to two arcs.

*Objective 9: The student will construct an octagon.
*Objective 10: The student will construct a hexagon.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____ *1. Matched terms with their correct definitions.
____ 2. Identified basic geometric shapes.
____ *3. Bisected a line and an arc.
____ *4. Bisected an angle.
____ *5. Constructed a perpendicular line to a line from a point.
____ *6. Divided a line into equal parts.
____ *7. Drew an arc tangent to a straight line and an arc.
____ *8. Drew an arc tangent to two arcs.
____ *9. Constructed an octagon.
____ *10. Constructed a hexagon.

*Indicates core/essential objectives

COURSE: General Drafting I

Unit 5: Basic CAD

Objectives: Upon completion of this unit, the student will:

1. Match terms with their correct definitions.
*2. Demonstrate proper care and maintenance of computer software.
*3. Demonstrate proper care and maintenance of computer hardware.
*4. Create drawings on a microcomputer.
*5. Construct a two-view drawing using straight line statements.
*6. Construct a two-view drawing using straight line, circle, and hidden line statements.
*7. Start up and shut down the available CAD system.
*8. Load program, store onto disk, and make a backup copy.
*9. Operate the available CAD system.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Stepping Into CAD Instructor's Guide. Mark Merickel. New Riders Publishing, Post Office Box 4846, Thousand Oaks, CA, 91360. 1986.

Additional Sources: Basic Drafting: Book Two. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Evaluation and Suggested Minimum Performance Standards:

Objective 1: The student will match ten CAD equipment terms with their correct definitions.
*Objective 2: The student will demonstrate proper care and maintenance of computer software.
*Objective 3: The student will demonstrate proper care and maintenance of computer hardware.
*Objective 4: The student will create one drawing on a microcomputer.
*Objective 5: The student will construct a two-view drawing using straight line statements.
*Objective 6: The student will construct a two-view drawing using straight line, circle, and hidden line statements.
*Objective 7: The student will start up and shut down the available CAD system.

*Objective 8: The student will load program, store onto disk, and make a backup copy.
*Objective 9: The student will operate the available CAD system.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____1. Matched terms with their correct definitions.
____*2. Demonstrated proper care and maintenance of computer software.
____*3. Demonstrated proper care and maintenance of computer hardware.
____*4. Created drawings on a microcomputer.
____*5. Constructed a two-view drawing using straight line statements.
____*6. Constructed a two-view drawing using straight line, circle, and hidden line statements.
____*7. Started up and shut down the available CAD system.
____*8. Loaded program, stored onto disk and made a backup copy.
____*9. Operated the available CAD system.

*Indicates core/essential objectives

COURSE: General Drafting I

Unit 6: Orthographic Projection

Objectives: Upon completion of this unit, the student will:

*1. Match terms with their correct definitions.
*2. List principle views possible in orthographic projection.
*3. Select the correct line precedence in an orthographic drawing.
*4. Construct a top view, with the front and right side given, with a maximum of five erasures.
*5. Construct a front view, with the top and right side given, with a maximum of five erasures.
*6. Construct a right side view, with the top and front view given, with a maximum of five erasures.
*7. Construct a three-view drawing from a pictorial with a maximum of five erasures.
8. Dimension metrically an orthographic drawing given an orthographic drawing dimensioned in standard measurements.
9. Construct and dimension metrically on a 1:1 scale, a three-view drawing from a pictorial.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Basic Drafting: Book Two. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Sources: Basic Technical Drawing. Henry Cecil Spencer and John Thomas Dygdon. Macmillan Publishing Co., Inc. New York. 1980.

Evaluation and Suggested Minimum Performance Standards:

*Objective 1: The student will match ten terms with their correct definitions.
*Objective 2: The student will list six principle views possible in orthographic projection.
*Objective 3: The student will select the correct line precedence in an orthographic drawing.
*Objective 4: The student will construct a top view, with the front and right side given, with a maximum of five erasures.
*Objective 5: The student will construct a front view, with the top and right side given, with a maximum of five erasures.

*Objective 6: The student will construct a right side view, with the top and front view given, with a maximum of five erasures.

*Objective 7: The student will construct a three-view drawing from a pictorial with a maximum of five erasures.

Objective 8: The student will dimension metrically an orthographic drawing given an orthographic drawing dimensioned in standard measurements.

Objective 9: The student will construct and dimension metrically on a 1:1 scale, a three-view drawing from a pictorial.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____*1. Matched terms with their correct definitions.
____*2. Listed principle views possible in orthographic projection.
____*3. Selected the correct line precedence in an orthographic drawing.
____*4. Constructed a top view, with the front and right side given, with a maximum of five erasures.
____*5. Constructed a front view, with the top and right side given, with a maximum of five erasures.
____*6. Constructed a right side view, with the top and front view given, with a maximum of five erasures.
____*7. Constructed a three-view drawing from a pictorial with a maximum of five erasures.
____ 8. Dimensioned metrically an orthographic drawing given an orthographic drawing dimensioned in standard measurements.
____ 9. Constructed and dimensioned metrically on a 1:1 scale, a three-view drawing from a pictorial.

*Indicates core/essential objectives

COURSE: General Drafting I

Unit 7: Dimensioning

Objectives: Upon completion of this unit, the student will:

*1. Match terms with their correct definitions.
*2. Identify basic line types used in dimensioning.
*3. Demonstrate proper use of the Aligned and Unidirectional systems.
*4. List rules for lines used in dimensioning.
*5. Identify types of finish marks.
*6. State the purpose for a notation on drawings.
*7. Define shop processes.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Basic Drafting: Book Two. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Sources: Basic Technical Drawing. Henry Cecil Spencer and John Thomas Dygdon. Macmillan Publishing Co., Inc. New York. 1980.

Evaluation and Suggested Minimum Performance Standards:

*Objective 1: The student will match ten terms with their correct definitions.
*Objective 2: The student will identify four basic line types used in dimensioning.
*Objective 3: The student will demonstrate proper use of the Aligned and Unidirectional systems.
*Objective 4: The student will list three rules for lines used in dimensioning.
*Objective 5: The student will identify types of finish marks.
*Objective 6: The student will state the purpose for a notation on drawings.
*Objective 7: The student will define five shop processes.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____*1. Matched terms with their correct definitions.
____*2. Identified basic line types used in dimensioning.
____*3. Demonstrated proper use of the Aligned and Unidirectional system.
____*4. Listed rules for lines used in dimensioning.
____*5. Identified types of finish marks.
____*6. Stated the purpose for a notation on drawings.
____*7. Defined shop processes.

*Indicates core/essential objectives

COURSE: General Drafting I

Unit 8: Sectional Views

Objectives: Upon completion of this unit, the student will:

*1. Match terms with their correct definitions.
*2. List types of lines used in sections.
*3. Construct a full section.
*4. Construct a half section.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Basic Drafting: Book Two. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Sources: Basic Technical Drawing. Henry Cecil Spencer and John Thomas Dygdon. Macmillan Publishing Co., Inc. New York. 1980.

Evaluation and Suggested Minimum Performance Standards:

*Objective 1: The student will match ten terms with their correct definitions.
*Objective 2: The student will list three types of lines used in sections.
*Objective 3: The student will construct a full section.
*Objective 4: The student will construct a half section.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

___*1. Matched terms with their correct definitions.
___*2. Listed types of lines used in sections.
___*3. Constructed a full section.
___*4. Constructed a half section.

*Indicates core/essential objectives

COURSE: General Drafting I

Unit 9: Pictorials

Objectives: Upon completion of this unit, the student will:

1. Define isometric, cabinet oblique, cavalier oblique, and perspective.
*2. Construct an isometric drawing from three views.
*3. Construct an oblique drawing from three views.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Basic Drafting: Book Two. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Sources: Basic Technical Drawing. Henry Cecil Spencer and John Thomas Dygdon. Macmillan Publishing Co., Inc. New York. 1980.

Evaluation and Suggested Minimum Performance Standards:

Objective 1: The student will define isometric, cabinet oblique, cavalier oblique, and perspective.
*Objective 2: The student will construct an isometric drawing from three views.
*Objective 3: The student will construct an oblique drawing from three views.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

___ 1. Defined isometric, cabinet oblique, cavalier oblique, and perspective.
___*2. Constructed an isometric drawing from three views.
___*3. Constructed an oblique drawing from three views.

*Indicates core/essential objectives

GENERAL DRAFTING II

Developed by:

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GENERAL DRAFTING II

Unit No.	Title
1	Introduction to Architectural Drafting
2	Structural Systems and Building Materials
3	Basic CAD
4	Architectural Working Drawings

COURSE: General Drafting II

Unit 1: Introduction to Architectural Drafting

Objectives: Upon completion of this unit, the student will:

*1. Match terms with their correct definitions.
*2. Match job titles with the correct qualifications and responsibilities.
*3. Interview an architectural drafter.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Architectural Drafting. Ronald Davis and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Sources: Basic Technical Drawing. Henry Cecil Spencer and John Thomas Dygdon. Macmillan Publishing Co., Inc. New York. 1980.

Evaluation and Suggested Minimum Performance Standards:

*Objective 1: The student will match five terms with their correct definitions.
*Objective 2: The student will match five job titles with the correct qualifications and responsibilities.
*Objective 3: The student will interview an architectural drafter.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____*1. Matched terms with their correct definitions.
____*2. Matched job titles with the correct qualifications and responsibilities.
____*3. Interviewed an architectural drafter.

*Indicates core/essential objectives

COURSE: General Drafting II

Unit 2: Structural Systems and Building Materials

Objectives: Upon completion of this unit, the student will:

1. Match terms with their correct definitions.
*2. Identify symbols on plan, elevation, or section drawings.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Architectural Drafting. Ronald Davis and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Sources: Basic Technical Drawing. Henry Cecil Spencer and John Thomas Dygdon. Macmillan Publishing Co., Inc. New York. 1980.

Evaluation and Suggested Minimum Performance Standards:

Objective 1: The student will match twenty terms with their correct definitions.
*Objective 2: The student will identify earth, concrete, wood, brick, and insulation symbols on plan, elevation, or section drawings.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____ 1. Matched terms with their correct definitions.
____*2. Identified symbols on plan, elevation, or section drawings.

*Indicates core/essential objectives

COURSE: General Drafting II

Unit 3: Basic CAD

Objectives: Upon completion of this unit, the student will:

*1. Match terms with their correct definitions.
*2. Demonstrate proper care and maintenance of computer software.
*3. Demonstrate proper care and maintenance of computer hardware.
*4. Create drawings on a microcomputer.
*5. Construct a two-view drawing using straight line statements.
*6. Construct a two-view drawing using straight line, circle, and hidden line statements.
*7. Start up and shut down the available CAD system.
*8. Load program, store onto disk, and make a backup copy.
*9. Operate the available CAD system.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Stepping Into CAD Instructor's Guide. Mark Merickel. New Riders Publishing, Post Office Box 4846, Thousand Oaks, CA, 91360. 1986.

Additional Sources: Basic Drafting: Book Two. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Evaluation and Suggested Minimum Performance Standards:

*Objective 1: The student will match ten CAD equipment terms with their correct definitions.
*Objective 2: The student will demonstrate proper care and maintenance of computer software.
*Objective 3: The student will demonstrate proper care and maintenance of computer hardware.
*Objective 4: The student will create one drawing on a microcomputer.
*Objective 5: The student will construct a two-view drawing using straight line statements.
*Objective 6: The student will construct a two-view drawing using straight line, circle, and hidden line statements.
*Objective 7: The student will start up and shut down the available CAD system.

*Objective 8: The student will load program, store onto disk, and make a backup copy.
*Objective 9: The student will operate the available CAD system.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____*1. Matched terms with their correct definitions.
____*2. Demonstrated proper care and maintenance of computer software.
____*3. Demonstrated proper care and maintenance of computer hardware.
____*4. Created drawings on a microcomputer.
____*5. Constructed a two-view drawing using straight line statements.
____*6. Constructed a two-view drawing using straight line, circle, and hidden line statements.
____*7. Started up and shut down the available CAD system.
____*8. Loaded program, stored onto disk, and made a backup copy.
____*9. Operated the available CAD system.

*Indicates core/essential objectives

COURSE: General Drafting II

Unit 4: Architectural Working Drawings

Objectives: Upon completion of this unit, the student will:

*1. Draw to scale using the architect's scale.
*2. Letter using one of the accepted architectural styles.
*3. Draw and dimension a floor plan which includes at least one thousand square feet.
*4. Draw the front elevation of the corresponding floor plan.
*5. Draw a side elevation of the corresponding floor plan.
*6. Draw a typical exterior wall section of the corresponding floor plan.
7. Dimension a typical exterior wall section of the corresponding floor plan using metric and standard measurements.

*Indicates core/essential objectives

Suggested Instructional Procedures:

Lecture-discussion
Laboratory demonstration and practice

Suggested Resources:

Primary Source: Architectural Drafting. Ronald Davis and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Additional Source: Basic Drafting: Book One. Ronald Davis, Bill Hill, and Bruce Yancey. Mid-America Vocational Curriculum Consortium, Inc. Stillwater, Oklahoma. 1981.

Evaluation and Suggested Minimum Performance Standards:

*Objective 1: The student will draw to scale using the architect's scale where 1/4" = 1'0", 1/2" = 1'0", 1" = 1'0".
*Objective 2: The student will letter using one of the accepted architectural styles.
*Objective 3: The student will draw and dimension a floor plan which includes at least one thousand square feet.
*Objective 4: The student will draw the front elevation of the corresponding floor plan.
*Objective 5: The student will draw a side elevation of the corresponding floor plan.
*Objective 6: The student will draw a typical exterior wall section of the corresponding floor plan.

Objective 7: The student will dimension a typical exterior wall section of the corresponding floor plan using metric and standard measurements.

*Indicates core/essential objectives

Performance Record: Place a check by each objective the student achieved:

____*1. Drew to scale using the architect's scale.
____*2. Lettered using one of the accepted architectural styles.
____*3. Drew and dimensioned a floor plan which included at least one thousand square feet.
____*4. Drew the front elevation of the corresponding floor plan.
____*5. Drew a side elevation of the corresponding floor plan.
____*6. Drew a typical exterior wall section of the corresponding floor plan.
____ 7. Dimensioned a typical exterior wall section of the corresponding floor plan using metric and standard measurements.

*Indicates core/essential objectives

STUDENT PERFORMANCE RECORD

GENERAL DRAFTING

GENERAL DRAFTING I

Student: _____

This record is provided as an alternative to the student performance records at the end of each unit. It can be duplicated for each student and serve as a cumulative record of competencies achieved in the course.

Place a check by each objective the student achieved; you may wish to note the date that the student achieved the objective.

C = Core competencies

____ 1. Matched terms with their correct definitions.
____ 2. Selected areas of specialization related to drafting.
____ C3. Listed rules for personal safety in the drafting classroom.
____ 4. Stated reasons for joining the VICA organization.
____ 5. Matched tools with their correct usage.
____ C6. Identified the basic types of lines.
____ C7. Interpreted 1/16, 1/8, 1/4, and 1/2 inch graduations on a full size scale.
____ 8. Matched media terms with their correct definitions.
____ 9. Operated the blueprint machine.
____ 10. Interpreted 2.5 cm, 9 cm, and 3 mm graduations on 1:1 scale ratio using a metric scale.
____ 11. Listed guidelines for lettering.
____ 12. Identified lettering tools.
____C13. Stated reasons for neat lettering.
____C14. Stated rules for neat lettering.
____C15. Constructed lower-case and upper-case Gothic letters and numerals demonstrating fundamental strokes of freehand drawing.
____ 16. Constructed single stroke letters.
____ 17. Constructed vertical upper-case and lower-case letters.
____C18. Matched terms with their correct definitions.
____ 19. Identified basic geometric shapes.
____C20. Bisected a line and an arc.
____C21. Bisected an angle.
____C22. Constructed a perpendicular line to a line from a point.
____C23. Divided a line into equal parts.
____C24. Drew an arc tangent to a straight line and an arc.
____C25. Drew an arc tangent to two arcs.
____C26. Constructed an octagon.
____C27. Constructed a hexagon.
____ 28. Matched terms with their correct definitions.
____C29. Demonstrated proper care and maintenance of computer software.
____C30. Demonstrated proper care and maintenance of computer hardware.
____C31. Created drawings on a microcomputer.

____C32. Constructed a two-view drawing using straight line statements.
____C33. Constructed a two-view drawing using straight line, circle, and hidden line statements.
____C34. Started up and shut down the available CAD system.
____C35. Loaded program, stored onto disk and made a backup copy.
____C36. Operated the available CAD system.
____C37. Matched terms with their correct definitions.
____C38. Listed principle views possible in orthographic projection.
____C39. Selected the correct line precedence in an orthographic drawing.
____C40. Constructed a top view, with the front and right side given, with a maximum of five erasures.
____C41. Constructed a front view, with the top and right side given, with a maximum of five erasures.
____C42. Constructed a right side view, with the top and front view given, with a maximum of five erasures.
____C43. Constructed a three-view drawing from a pictorial with a maximum of five erasures.
____ 44. Dimensioned metrically an orthographic drawing given an orthographic drawing dimensioned in standard measurements.
____ 45. Constructed and dimensioned on a 1:1 scale, a three-view drawing from a pictorial.
____C46. Matched terms with their correct definitions.
____C47. Identified basic line types used in dimensioning.
____C48. Demonstrated proper use of the Aligned and Unidirectional system.
____C49. Listed rules for lines used in dimensioning.
____C50. Identified types of finish marks.
____C51. Stated the purpose for a notation on drawings.
____C52. Defined shop processes.
____C53. Matched terms with their correct definitions.
____C54. Listed types of lines used in sections.
____C55. Constructed a full section.
____C56. Constructed a half section.
____ 57. Defined isometric, cabinet oblique, cavalier oblique, and perspective.
____C58. Constructed an isometric drawing from three views.
____C59. Constructed an oblique drawing from three views.

GENERAL DRAFTING II

Student: _____

This record is provided as an alternative to the student performance records at the end of each unit. It can be duplicated for each student and serve as a cumulative record of competencies achieved in the course.

Place a check by each objective the student achieved; you may wish to note the date that the student achieved the objective.

C = Core competencies

____ C1. Matched terms with their correct definitions.
____ C2. Matched job titles with the correct qualifications and responsibilities.
____ C3. Interviewed an architectural drafter.
____ 4. Matched terms with their correct definitions.
____ C5. Identified symbols on plan, elevation, or section drawings.
____ C6. Matched terms with their correct definitions.
____ C7. Demonstrated proper care and maintenance of computer software.
____ C8. Demonstrated proper care and maintenance of computer hardware.
____ C9. Created drawings on a microcomputer.
____ C10. Constructed a two-view drawing using straight line statements.
____ C11. Constructed a two-view drawing using straight line, circle, and hidden line statements.
____ C12. Started up and shut down the available CAD system.
____ C13. Loaded program, stored onto disk, and made a backup copy.
____ C14. Operated the available CAD system.
____ C15. Drew to scale using the architect's scale.
____ C16. Lettered using one of the accepted architectural styles.
____ C17. Drew and dimensioned a floor plan which included at least one thousand square feet.
____ C18. Drew the front elevation of the corresponding floor plan.
____ C19. Drew a side elevation of the corresponding floor plan.
____ C20. Drew a typical exterior wall section of the corresponding floor plan.
____ 21. Dimensioned a typical exterior wall section of the corresponding floor plan using metric and standard measurements.